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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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08/08/2001

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EXAMINER

JOHNSON, STEPHEN

ART UNIT

PAPER NUMBER

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DELIVERY MODE

10/01/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 09/923,368	<b>Applicant(s)</b> LIU, LIQING	
	<b>Examiner</b> Stephen M. Johnson	<b>Art Unit</b> 3641	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 20 July 2007.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) 5-10 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☒ Claim(s) 1-10 are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 August 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

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1. Applicant's election with traverse of the group I invention (claims 1-4) in the reply filed on 7/20/2007 is acknowledged. The traversal is on the ground(s) that claims 5-10 are not patentably distinct from claims 1-4. This is not found persuasive for several reasons. First, the statement is a conclusion and not an argument. A conclusion absent any accompanying argument or evidence is unconvincing. Second, claim 5 contains claim limitations not present in claim 1 directed to "aluminum present being surplus in stoichiometry needed to react". This is considered to be a non-obvious feature that could patentably distinguish over the art. As such the argument directed to patentable distinction is not convincing.

The requirement is still deemed proper and is therefore made FINAL.

Claims 5-10 are withdrawn from consideration as being directed to a non-elected invention. Claims 1-4 read on the elected invention and an action on these claims follows.

2. Claim 4 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 4 substitutes a light metal for aluminum. As such, it does not contain every limitation of the claim from which it depends (aluminum being removed).

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-4 are rejected under 35 U.S.C. 102(b) as being anticipated by Bruphacher et al. (343).

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Bruphacher et al. disclose a method of utilizing energy comprising:

- |  |                     |
|--|---------------------|
| a) placing a combustible explosive device in water;    | col. 2, lines 34-46 |
| b) production of aluminum;                             | col. 2, lines 46-55 |
| c) molten aluminum produced;                           | col. 2, lines 55-57 |
| d) actuating the explosive device to produce aluminum; | col. 2, lines 46-57 |
| e) the molten aluminum reacts with water;              | col. 2, lines 55-58 |
| f) a target to be attached;                            | inherent            |
| g) production of pressure waves;                       | inherent            |
| h) a light metal other than aluminum;                  | col. 2, lines 53-55 |
| i) release of thermal energy; and                      | col. 2, lines 57-58 |
| j) release of hydrogen gas.                            | see abstract        |

5. Applicant's arguments are addressed as follows.

It is argued that Bruphacher teaches a method that discharges ceramics. In response, note that Bruphacher teaches discharging either ceramics or metals (col. 2, lines 46-48). It is argued that Bruphacher uses aluminum in conjunction with other elements to create ceramics or intermetallics. This argument is not accurate. The reactive mixture reacts exothermically to produce either ceramics or intermetallics, one of which is molten aluminum (col. 2, lines 46-58). With regard to the issue of the "discharge of pure molten aluminum" into liquid water, note that all applicant has claimed is "producing aluminum in its molten state to react with water". This claim limitation is taught in col. 2, lines 55-58.

It is argued that Bruphacher teaches only a small amount of high explosive. In response, note that the amount of the high explosive has not been claimed. It is argued that the reactive

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mixture of Bruphacher includes the powders of individual elements and not a high explosive. In response, note that applicant has claimed “a detonable or combustible explosive device” and this is met by the “explosive device” as taught in col. 2, lines 34-42. Applicant also argues that his invention is directed to high explosives that are mixed with aluminum powder and that a portion of the aluminum powder forms the molten aluminum. This may be accurate but since this combination of features has not been claimed this argument is moot.

6. Applicant's arguments filed on 8/22/2006 have been fully considered but they are not persuasive. These arguments have been addressed in the preceding paragraphs.

7. This application contains claims 5-10 drawn to an invention nonelected with traverse in the reply filed on 7/20/2007. A complete reply to the final rejection must include cancellation of nonelected claims or other appropriate action (37 CFR 1.144) See MPEP § 821.01.

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

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9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stephen M. Johnson whose telephone number is 571-272-6877 and whose e-mail address is ([Stephen.Johnson@uspto.gov](mailto:Stephen.Johnson@uspto.gov)). The examiner can normally be reached on Tuesday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Carone can be reached on 571-272-6873. The Central FAX phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 800-786-9199.

/Stephen M. Johnson/  
Primary Examiner, Art Unit 3641

Stephen M. Johnson  
Primary Examiner  
Art Unit 3641

SMJ  
September 29, 2007